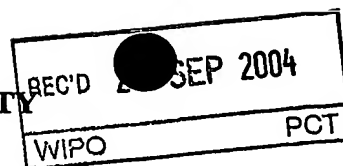


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Rec'd PCT/PTO 15 DEC 2004

Applicant's or agent's file reference 39815	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/FI 2003/000495	International filing date (day/month/year) 18.06.2003	Priority date (day/month/year) 26.06.2002
International Patent Classification (IPC) or national classification and IPC B27L 11/00		
Applicant Metso Paper Inc, et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☒ (sent to the applicant and to the International Bureau) a total of 1 sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

Date of submission of the demand 01.12.2003	Date of completion of this report 21.09.2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer Kristoffer Ogebjer/EK Telephone No. +46 8 782 25 00

Form PCT/IPEA/409 (cover sheet) (January 2004)

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI 2003/000495

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1 - 5 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* 6 received by this Authority on 21.07.2004
- pages* _____ received by this Authority on _____
- ☒ the drawings:
- pages 1 - 5 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI 2003/000495

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-5</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-5</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-5</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Documents cited in the International Search Report:

D1: WO, A1, 9958310

D2: US, A, 5660218

The cited documents represent the general state of the art.

The invention defined in claims 1-5 is not disclosed by any of these documents.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed method, clamping arrangement and knife clamp of using the compensating force. Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1-5 is novel and is considered to involve an inventive step. The invention is industrially applicable.

ClaimsREPLACED BY
JPH 34 AMDT

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A method for clamping a knife (1) of a disc chipper, wherein the knife is pressed from the knife disc (4) via knife clamp (2', 23) against a wear plate (3) in a diagonal position (α) with respect to the plane of the knife disc with a compressive force (N) substantially parallel with the axis of the knife disc, **characterized** in, that a compensating force of the force directed to the knife clamp, caused by the diagonal position (α) of the knife and transversal to the compressive force (N), is exerted to the wear plate.

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2. A method in accordance with claim 1, **characterized** in, that the compensating force of the transversal force is exerted to the wear plate (3) in parallel direction with the knife (1), facing the wear plate with respect to the plane between the knife and the wear plate, whereby the compensating force brings about a moment that turns the knife clamp and increasing of the compressive force (P_4) on the region (8) of the knife point.

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3. A clamping arrangement for a knife of a disc chipper comprising a knife disc (4), a wear plate (3), a knife (1), compressing means (5) and a knife clamp (2' or 23), wherein a lateral force (P_3) is generated, said force deviating by angle (α) from the perpendicular direction to the compressive force (N), **characterized** in that there is a bracket (16) in the knife clamp (2' or 23), the surface (17) of which receives the generated force (P_3) by supporting itself against a surface (18) of the groove (20) of the wear plate (3).

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4. A knife clamp (23) in accordance with claim 3, **characterized** in, that the upper surface (21) of the bracket (16') is supported to the bottom surface (26) of the groove (20') of the wear plate (3).

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5. An assembly for clamping a knife (1) in accordance with claim 3 and 4, **characterized** in, that the knife clamp (23) comprises a projection (22) guiding the knife (24) from a groove (25).